



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ :		A1	(11) International Publication Number:	WO 99/57130
C07H 21/04, C12N 15/00, C12Q 1/02, 1/68			(43) International Publication Date:	11 November 1999 (11.11.99)

(21) International Application Number: PCT/US99/09761

(22) International Filing Date: 5 May 1999 (05.05.99)

(30) Priority Data:
60/084,329 5 May 1998 (05.05.98) US(71) Applicant (for all designated States except US): GENE LOGIC,
INC. [US/US]; 708 Quince Orchard Road, Gaithersburg,
MD 21046 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PRASHAR, Yatindra
[IN/US]; 9749 Clocktower Lane #304, Columbia, MD
21046 (US). WEISSMAN, Sherman [US/US]; 459 St.
Ronan Street, New Haven, CT 06511 (US).(74) Agent: ADLER, Reid, G.; Morgan, Lewis & Bockius LLP,
1800 M Street, N.W., Washington, DC 20036 (US).(81) Designated States: AU, CA, JP, US, European patent (AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE).

Published

*With international search report.**Before the expiration of the time limit for amending the
claims and to be republished in the event of the receipt of
amendments.*

(54) Title: A PROCESS TO STUDY CHANGES IN GENE EXPRESSION IN T LYMPHOCYTES

(57) Abstract

Methods are disclosed to identify T lymphocyte genes that are differentially expressed upon exposure to a pathogen (viral or bacterial), immunogen, antigen, or in a sterile inflammatory disease, autoimmune disease, immunodeficiency disease, lymphocytic cancers, or graft versus host rejection. The method involves the preparation of a gene expression profile of a T lymphocyte population exposed to a pathogen or isolated from a subject having one of the aforementioned pathologies and comparing that profile to a profile prepared from quiescent T lymphocytes. The present invention is particularly useful for identifying cytokine genes, genes encoding cell surface receptors and genes encoding intermediary signalling molecules. Related methods for identifying therapeutic or prophylactic immunomodulatory agents are presented. Articles of manufacture are disclosed that comprise selected grouping of nucleic acids, affixed to a solid support, that correspond to genes that are differentially expressed in various populations or subpopulations of T lymphocytes at variations stages of T cell differentiation, in quiescent versus activated T lymphocytes or normal versus diseased T lymphocytes.

PCT/US99/09761